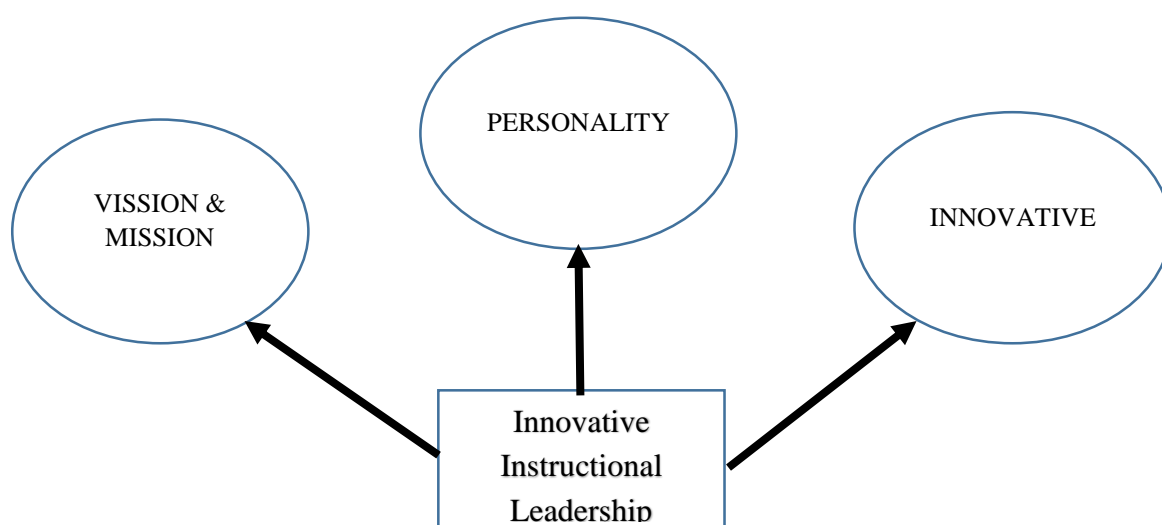


1.0 INTRODUCTION

Leadership is a critical aspect in an organization. Generally, leaders have to assemble a strategic plan where leaders give directions. All educational leaders are not involved in the active educational processes between student and teacher. ‘Educational leadership’ is used when referring to management in general in educational institutions, that is, as a broader concept comprising such issues as economy and allocation of resources (Näsman, 2017). According to Staub (2014) and Andrew (2014), motivate followers to carry out the aspired strategic planning arranged by the organization. (Thompson, 2012). This is a conventional leadership concept. However, the evolution of the leadership concept produces many theories and leadership strategies. According to Jo Owen (2011), leadership is something enigmatic as it does not have the consensus about a specific leadership definition. From a historical chronology, there had been several great leaders that portrayed unique leadership traits. A great leader may have to have leadership skills like Genghis Khan, Nelson Mandela and Niccolo Machiavelli. Genghis Khan was very skilled in terms of setting war strategies till he was able to unite Mongolians and then founded the Mongolian Empire by conquering a huge part of Asia, including North China (Jin Dynasty), West Xia, Central Asia, Persia and Mongolia. Nelson Mandela was famous for being a leader who fought for independence through anti-apartheid activities which ended the white minority regime and discrimination towards black people in South Africa (Brown, 2012). Whereas Machiavelli was famous for his political theory in retaining ruling powers (Avolio & Gardner, 2005). By looking at these successes, one can figure out how amazing these leaders were even though they had different leadership traits. Organizational intellectual leadership behaviours are crucial to enhancing the innovative side of universities, such as developing varied education programmes, establishing international networks, obtaining competitive research funds, and heightening institutional reputations, as well as advancing their disciplines, assisting the development of younger academics and contributing to the solution of social issues. The major determinants contributing to organization scholarly productivity as part of their intellectual leadership are institutional facilities and alternative managerial practices to support their scholarly activities (Uslu & Arslan, 2017).

1.1 Research Framework



1.2 Research Objectives

- i. To explore a construct of innovative instructional leadership
- ii. To develop a measurement model of innovative instructional leadership

2.0 THEORITICAL BACKGROUND

Technical and Vocational Education (TVE) plays a vital role in developing the country's progress. TVE has known to produce some transformation in producing quality products and a competitive and skilful workers. Based on the New Economy Model (NEM), the government has underlined the importance of developing and maintaining world-class talent to generate as a high income countries. Thus, the government is trying to mainstream TVE as one of the tertiary education. In developed countries, TVE is the preferred choices for students because it provides good career prospects in the future. However, in Malaysia, TVE is seen as a last resort in career development choices because of the perception of limited career opportunities. TVE actually provides an alternative platform for the students to realize and maximize their potential. Therefore, higher education institutions are increasingly recognizing the importance of organizational change as they face complex challenges. Leadership learning has been identified as an important way of supporting change management (Franken, Branson, & Penney, 2016).

Many studies in TVE field have used the quantitative design approach. However, in this article we will discuss on the Delphi technique approach of which is can be used in the TVE researchers for structuring a group communication process to facilitate group problem solving and to structure models. The method can also be used as a judgment, decision-aiding or forecasting tool (Hallowell & Gambatese, 2010), and can be applied to program planning and administration (Linstone & Turoff, 1975). The Delphi method can be used when there is incomplete knowledge about a problem or phenomena (Skulmoski, Hartman, & Krahn, 2007). The method can be applied to problems that do not lend themselves to precise analytical techniques, but rather could benefit from the subjective judgments of individuals on a collective basis (Robert Loo, 2002) and to focus their collective human intelligence on the problem at hand (Linstone & Turoff, 1975). Also, the Delphi is used to investigate what does not yet exist (Czinkota & Ronkainen, 1997; Halal, Kull, & Leffmann, 1998; Skulmoski & Hartman, 2002). The Delphi method is a mature and a very adaptable research method used in many research arenas by researchers across the globe. To better understand its diversity in applications, one needs to consider the origins of the Delphi method.

There are several theories that explain the concept of leadership. Genetic theory explains that the root of leadership is a trait that is passed on from generation to generation, usually from a father to a son (Bush, 2014) The social theory is that a leader can be chosen and shaped, in other words not through inheritance but each individual is able to be a leader (Weatherford, 2005). Scholars and philosophers have written about the characteristic of a leader and their roles since the beginning of human civilization. Plato in renowned book *The Republic* displayed the life story of Plutarch. Plutarch was Greek historian that wrote about the life and heroic characteristics of Greek leaders such as *Alexander the Great*. According to Plutarch, leadership depends on specific traits and this is according to leadership that they possess and according to leadership history

that was passed down and followed to be used as a guide in the reap of ruling (Cerne et al., 2013).

In the 21st century, there have been several leadership theories such as distributed leadership that focuses on the distribution of several different expertise in an organization (Howard & Emma, 2011). According to Howard and Emma (2011), distributed leadership is the tendency for higher-ups to distribute work to followers based on expertise, skills, and knowledge of the particular follower. However, he stressed that the key factor of a successful distributed leadership depends on how it is made easier, moved and given support. Next, everlasting leadership founded by Hargreaves and Fink came about in the year 2003. Hargreaves and Fink (2003) defined everlasting leadership as an initiative among leaders and followers in developing organizations without affecting the development and other environment now and in the future. Everlasting and distributed leadership has led to a new dimension in education. Everlasting and distributed leadership are connected with each other based on the practice and principle that are more open and emphasize on continuity as well as collaboration in an organization.

Furthermore, innovative leadership that was expanded by Sloane and Drath (2003) classified innovative leadership as a new approach in developing organization. Innovative leadership supports the accomplishment of mission and vision of an organization or group by using technology and new processes. Innovative leaders need to have an innovative mindset to ensure continuous success and retain to be competitive (Kapsali, 2011). The need for innovation in an organization has led to a new focus towards the roles of leaders in creating strategies and a more creative venture. Next, several other leadership theories such as Prime Leadership, Resonant Leadership, Futuristic Leadership and Digital Leadership. Although many theories and leadership models have been developed but researches had chosen Instructional Leadership and Innovative Leadership as a core in this research. This is because the researched polytechnic is an institution that is involved with the teaching and learning process where it is important to be more creative and innovative in the future. Besides, leadership in organization needs to be strengthened time to time (Castillo & Hallinger, 2017). Therefore it is important for polytechnic to have an instructional organization management that is more creative and and innovative to increase polytechnic quality to a direction that is more competitive.

3.0 METHODOLOGY

Research design has two aims which are to prepare answers to research questions and to control variables (Chua 2009; Kahn 2006). This research is a model development. According to Richey and Klein (2007:65), a model development type of research is the systematic study of design, development and evaluation processes with the aim of establishing an empirical basis for a creation of instructional and non-instructional products and tools and new or enhanced models that govern their development. Model development type of research aims to build a model, software, instructional or non-instructional product, tools or new module. Richey, Klein and Nielson (2004) explained that a model development research involved design, development, evaluation and the whole or a part of a process of a certain section. In context of this research, researchers use design research which is product research because this research constructs a measurement model that involves design process, development and evaluation. These

levels of a model development in first type research are carried out because each level is dependent to produce measurement models.

In the first phase, this research uses the Modified Delphi technique to achieve the initial results regarding the innovative instructional leadership. The Modified Delphi is a cycle series technique with specialists that are chosen in order to predict future events and to achieve a unanimous agreement (Custer et al., 2000). To develop construct and an item regarding the innovative instructional leadership in Malaysia's politechnic system, researchers have used the Modified Delphi technique to develop the construct and item with specialists from the reinforced polytechnic leadership in Malaysia. Laick (2011) and (Custer et al., 2000). stated that this technique is suitable for roaming and exploring construct development from the specialists' perception including literature review. Besides that, this technique also aims to form an agreement among the specialists regarding the issue. This was certified by Robert (2002) and Christensen et al., (2011) that through such technique, agreement among the specialists will be obtained for the confirmation of domain or future construct development. The rational use of such technique compared to other techniques is the agreement in getting specialists' point of view towards an item without the need to face others, thus the identity of each chosen specialist will be kept confidential which will allow the specialist to freely give their point of views and mark the given modifying scale based on their own professional knowledge. The data received from the Modified Delphi panel of specialists are used for the construct development and item in this leadership research.

When the instrument research is constructed based on Delphi's specialist, it should be verified and administered to target sample which are the polytechnic administrators. The research instrument constructed a set of questionnaires where the data gained from the sample using questionnaire can involve more, wider and thorough respondents. Zainuddin (2012) specified that the main benefit of the questionnaire is that if it is presented well, it can produce a more trusted result. This research uses questionnaire that is build based on the construct that has been verified by Modified Delphi panel that was carried out in the earlier phase. According to Mohd. Majid (2005), the use of questionnaire towards a larger population is more practical and effective, saves time and money as well as its execution. Questionnaires are said to be easy to be administrated and is easy to be understood by respondents. Next, the developed questionnaires are distributed to samples in five polytechnics that were randomly chosen to obtain confirmatory factor analysis (CFA) value by developing the innovative instructional leadership measurement model in the context of polytechnic.

4.0 RESULTS AND DISCUSSIONS

4.1 Explore a construct of innovative instructional leadership

In the development phase of this construct, the first stage is the need analysis where researchers have collected previous literature related to this. After the collection of the materials, the interview protocol inventory has been developed and went through the validation process by three experts as well as the declaration form was distributed to those involved. The expert panel to be interviewed has been determined. Interviews have been arranged. Once done interviewing the 11 experts, the findings were analysed and coded. The codes were arranged in the questionnaire to be distributed to the previous experts for the a few cycle. Based on the interviews with the 11 experts based

on the protocol inventory, the experts were in the opinion that 3 out of the following 9 constructs need to be in the questionnaire for the second cycle. The construct before the interview (9 constructs) and after the interview (3 constructs) are displayed in Table 1.

Table 1: Developed Constructs

Number	Indicators before Interview	Indicators after Interview
1)	Setting vision and mission	Vision and mission
2)	Providing necessities and verification	Not chosen by experts
3)	Concerns and practices	Not chosen by experts
4)	Self-personality and struggle	Personality
5)	Creating a conducive environment	Not chosen by experts
6)	Organizing abilities and achievement	Not chosen by experts
7)	Upgrade the teaching and learning process	Not chosen by experts
8)	Strategic and creative thinking	Not chosen by experts
9)	Innovative thinking	Innovative

After the interviewed (first round) have been done. The questionnaire will be distributed again among 11 experts to gain agreement and consensus. The value of median equal to 4 and 5 will be showed that agreement among the expertise while the Interquartile Range (IQR) equal to 0 and 1 for the consensus among the expertise.

4.2 Develop a measurement model of innovative instructional leadership

Figure 1 shows that measurement model of vision and mission which is achieve the good fit with the Absolute Fit Index equal to $3.25 < 5.00$. The factor loadings in the final revised model (Figure 1) are substantially significant with CFI ($\geq .9$) = .96, GFI ($\geq .9$) = .99 and RMSEA ($\leq .08$) = .06. Any item having a factor loading less than .60 should be deleted from the measurement model of a construct. The internal reliability (λ) ($> .70$) (item A=.79, item B=.78, item C=.88 and item D=.80), the value of AVE ($\geq .5$) = .66 and CR ($\geq .60$) = .89.

The results indicated that innovative instructional leadership (IIL) is related to construct of vision and mission, personality and innovative. This findings also reveals some similarities with other findings of previous research which the leaders should have plan vision and mission, good personality and innovative thinking (Yan, Maladzhi & Makinde, 2012; Richard, 2015; Ylimaki & Jacobson, 2013).

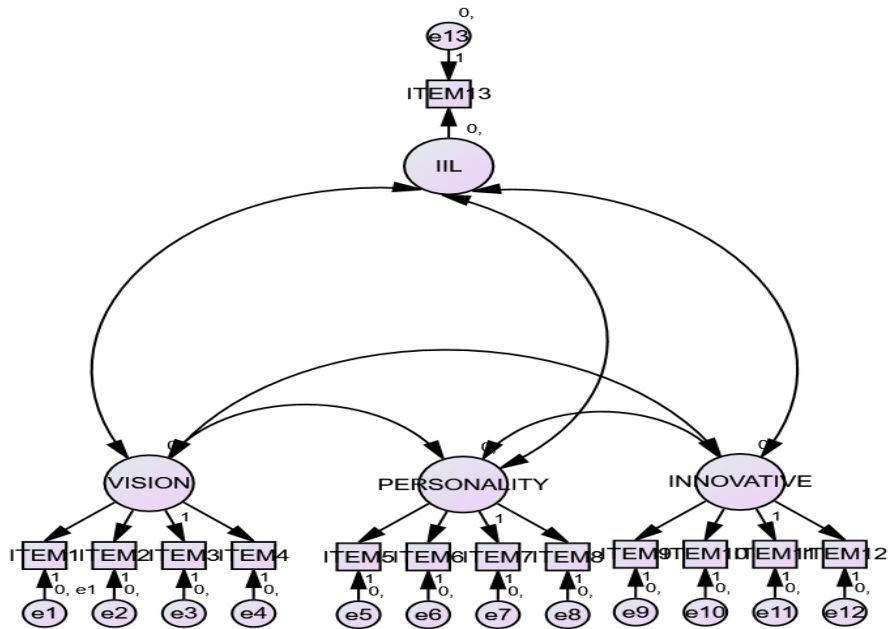


Figure 1. The Good Fit of IIL Measurement Model

Table 2: Index Category the Good Fit of IIL Measurement Model

Fit Index	Measurement Value	Rules of Thumb	Sources
CMIN/df	3.25	≤ 5.00	Hair et al (2010); Steiger et al.(1985);
CFI	0.96	≥ 0.90	Bagozzi dan Yi (1988); Hair et al. (2010); Tanaka dan Huba (1985);
RMSEA	0.06	≤ 0.08	Blozis and Cudeck (1999); Hair et al. (2006); Zainudin Awang (2012);

5.0 CONCLUSION

Overall, this research study has acquired the innovative instructional leadership should have the construct of vision and mission, personality and innovative thinking in a polytechnic system in Malaysia. The constructs gained are expected to increase the competence of technical organizations, especially polytechnics to achieve the aspiration of the transformation outlined. Additionally, this study also acquired an instrument for innovative instructional leadership to guide the administrator to measure the weaknesses and constraints inherent in them. Next is the development of an innovative instructional leadership measurement model that can be adopted as a policy and guidance to stakeholders such as the Polytechnic Education Department to enhance the professionalism of administrators, especially administrators in technical institutions.

Organizational intellectual leadership behaviors are crucial to enhancing the innovative side of universities, such as developing varied education programs, establishing international networks, obtaining competitive research funds, and heightening institutional reputations, as well as advancing their disciplines, assisting the development of younger academics and contributing to the solution of social issues. The major determinants contributing to organization scholarly productivity as part of their intellectual leadership are institutional facilities and alternative managerial practices to support their scholarly activities.

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